

=> fil reg
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STRUCTURE FILE UPDATES: 12 NOV 2006 HIGHEST RN 913055-81-9
DICTIONARY FILE UPDATES: 12 NOV 2006 HIGHEST RN 913055-81-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

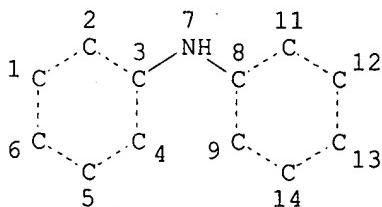
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<http://www.cas.org/ONLINE/UG/regprops.html>

=> d sta que 136
L30 STR



NODE ATTRIBUTES:

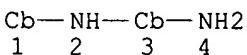
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC 4 8
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

L31 SCR 1993
L33 37070 SEA FILE=REGISTRY SSS FUL L30 AND L31
L34 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 1
GGCAT IS MCY UNS AT 3
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS E6 C AT 1
ECOUNT IS E6 C AT 3

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L36 3209 SEA FILE=REGISTRY SUB=L33 SSS FUL L34

100.0% PROCESSED 37070 ITERATIONS
SEARCH TIME: 00.00.01

3209 ANSWERS

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 13:45:20 ON 14 NOV 2006
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FILE COVERS 1907 - 14 Nov 2006 VOL 145 ISS 21
FILE LAST UPDATED: 12 Nov 2006 (20061112/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L103 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:1000602 HCAPLUS
DN 143:289153
ED Entered STN: 15 Sep 2005
TI Reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines as dispersants for lubricants and fuels
IN Loper, John T.; Griffin, Paul P.; Hutchison, David A.; Dittmeier, Robert T.
PA Afton Chemical Corporation, USA
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C10M0133-26
ICS C10L0001-22; C08F0008-46; C08F0008-32; C08F0255-00; C08F0255-10
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1574559	A1	20050914	EP 2005-251459	20050310 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
US 2005202980	A1	20050915	US 2004-797877	20040310 <--
CA 2497072	AA	20050910	CA 2005-2497072	20050216 <--
AU 2005200694	A1	20050929	AU 2005-200694	20050216 <--
JP 2005256001	A2	20050922	JP 2005-65730	20050309 <--
PRAI US 2004-797877	A	20040310	<--	
CLASS				
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	ICS	C10L0001-22; C08F0008-46; C08F0008-32; C08F0255-00; C08F0255-10		
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US 2005202980	ECLA			
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	NCL	508/232.000; 044/331.000; 044/347.000; 044/348.000; 508/291.000		
	ECLA	C10M133/26		
CA 2497072	IPCI	C10M0141-06 [ICM, 7]; C10M0141-02 [ICS, 7]; C10M0141-00 [ICS, 7,C*]; C10L0001-14 [ICS, 7]; C10L0001-18 [ICS, 7]; C10L0001-22 [ICS, 7]; C10L0001-10 [ICS, 7,C*]		
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AU 2005200694	ECLA			
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IPCR [ICS, 7, C*]
 F02M0025-00 [I,C*]; F02M0025-00 [I,A]; C08F0008-00
 [I,C*]; C08F0008-32 [I,A]; C08F0008-46 [I,A];
 C08F0255-00 [I,C*]; C08F0255-00 [I,A]; C08F0255-10
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 C10L0001-188 [I,A]; C10L0001-224 [I,A]; C10L0001-2383
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 C10M0169-04 [I,A]; C10N0030-04 [N,A]; C10N0030-10
 [N,A]; C10N0040-04 [N,A]; C10N0040-25 [N,A]

JP 2005256001 IPCI C10M0133-16 [ICM, 7]; C10L0001-18 [ICS, 7]; C10L0001-22
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 [ICS, 7]; C10N0040-25 [ICS, 7]

IPCR C08F0008-00 [I,C*]; C08F0008-32 [I,A]; C08F0008-46
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 C08F0255-10 [I,A]; C10L0001-10 [I,C*]; C10L0001-2383
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FTERM 4H013/CE02; 4H104/BB18C; 4H104/BC06C; 4H104/BE11C;
 4H104/BF03C; 4H104/LA02; 4H104/LA05; 4H104/PA02;
 4H104/PA03; 4H104/PA05; 4H104/PA41

OS MARPAT 143:289153

AB Multifunctional dispersants for fuels and lubricants consist of the
 amination reaction products of a hydrocarbyl-substituted succinic
 acylating agent and a mixture of ≥ 1 aliphatic (nonpolymeric) polyamine
 and ≥ 1 aromatic (nonpolymeric) polyamine, in which the weight ratio of
 aliphatic to aromatic amine is 0.1-10:0.1-10 and the amination product contains
 ≥ 0.1 mol equivalent of the aromatic amine to 1 molar equivalent of the
 acylating agent. The aliphatic amine is a linear aliphatic (nonpolymeric)
 polyamine; the hydrocarbyl-substituted acylating agent consists of
 succinic anhydride substituted with a hydrocarbyl group with number-average
 mol. weight 200-10,000 (especially polyisobutetyl). The aromatic polyamine is
 N-phenylphenylenediamine, N-naphthylphenylenediamine, or a polyamine with
 general formula R1-Ar-NH-C6H3(R2)(R3), in which Ar is the aromatic group, R1
 = H, -NH2, -NH-aryl-NH2, -NH-arylalkyl-NH2, -NH-alkyl-NH2, -NH-aryl,
 -NH-aryl-alkyl, -NH-alkyl, or branched C4-24-hydrocarbyl; R2 = -NH2,
 -(NH(CH2)n)m-NH2, -CH2-(CH2)n-NH2, or -aryl-NH2, in which n and m = 1-10;
 and R3 = H and C4-24-alkyl, -alkenyl, -alkoxy, -arylalkyl, or -alkaryl, in
 which only one or R2 and R3 has a terminal -NH2 group. The composition is
 suitable for use as an additive in crankcase lubricating oils, drive-train
 lubricants, gear lubricants, and lubricating greases.

ST lubricant dispersant amination hydrocarbylsuccinic anhydride polyamine;
 aliph arom polyamine polyisobutetylsuccinic anhydride lubricant
 dispersant; lubricating oil grease polyisobutetyl succinate polyamine
 dispersant; crankcase oil polyisobutetyl succinate polyamine dispersant;
 gear transmission lubricant polyisobutetyl succinate polyamine dispersant

IT Diesel fuel additives
 Fuel additives
 Fuel oil additives
 Gasoline additives
 Lubricating grease additives

Lubricating oil additives
 (dispersants; reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines as dispersants for lubricants and fuels)

IT Dispersing agents
 (fuel oil additives; reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines as dispersants for lubricants and fuels)

IT Lubricating oils
 (gear oils; reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines as dispersants for lubricants and fuels)

IT Lubricating oil additives
 (multifunctional; reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines as dispersants for lubricants and fuels)

IT Amines, uses
 RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (polyamines, aliphatic, nonpolymeric, reaction products with polyalkenylsuccinic anhydride and aromatic amines; dispersants; reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines
 as dispersants for lubricants and fuels)

IT Amines, uses
 RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (polyamines, nonpolymeric, aromatic, reaction products with aliphatic polyamines and polyalkenylsuccinic anhydride; dispersants; reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines
 as dispersants for lubricants and fuels)

IT Amines, uses
 RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
 (polyamines, nonpolymeric, polyethylene-, reaction products with polyalkenylsuccinic anhydride and aromatic amines; dispersants; reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines
 as dispersants for lubricants and fuels)

IT Hydraulic fluids
 (transmission, automatic; reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines as dispersants for lubricants and fuels)

IT 101-54-2D, N-Phenyl-1,4-phenylenediamine, reaction products with aliphatic polyamines and polyalkenylsuccinic anhydride
 108-30-5D, Succinic anhydride, polyisobutylene derivs., reaction products with aliphatic polyamines and aromatic polyamines
 10368-27-1D, reaction products with aliphatic polyamines and polyalkenylsuccinic anhydride
 84582-75-2D, E 100 (amine), reaction products with aliphatic polyamines and polyalkenylsuccinic anhydride
 RL: MOA (Modifier or additive use); RCT (Reactant);
 RACT (Reactant or reagent); USES (Uses)
 (dispersants; reaction products of polyalkenylsuccinic anhydrides with aliphatic and aromatic amines as dispersants for lubricants and fuels)

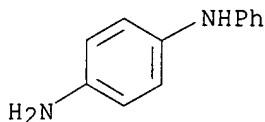
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Ethyl Corporation; EP 0909805 A 1999 HCPLUS
 (2) Infineum International Limited; EP 1318188 A 2003 HCPLUS
 (3) Liu; US 6117825 A 2000 HCPLUS

IT 101-54-2D, N-Phenyl-1,4-phenylenediamine, reaction products with aliphatic polyamines and polyalkenylsuccinic anhydride

108-30-5D, Succinic anhydride, polyisobut enyl derivs.,
 reaction products with aliphatic polyamines and aromatic polyamines
 RL: MOA (Modifier or additive use); RCT (Reactant);
 RACT (Reactant or reagent); USES (Uses)
 (dispersants; reaction products of polyalkenylsuccinic
 anhydrides with aliphatic and aromatic amines as dispersants for lubricants
 and fuels)

RN 101-54-2 HCPLUS

CN 1,4-Benzenediamine, N-phenyl- (9CI) (CA INDEX NAME)



RN 108-30-5 HCPLUS

CN 2,5-Furandione, dihydro- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (RWK)	Referenced File
Ethyl Corporation	1999			EP 0909805 A	HCPLUS
Infineum International	2003			EP 1318188 A	HCPLUS
Liu	2000			US 6117825 A	HCPLUS

L103 ANSWER 2 OF 3 HCPLUS COPYRIGHT 2006 ACS on STN

AN 2000:636202 HCPLUS

DN 133:225424

ED Entered STN: 13 Sep 2000

TI Polyisobutylene succinimide and ethylene-propylene succinimide synergistic additives for lubricating oil compositions

IN Liu, Christopher Soundang; Migdal, Cyril Andrew; Crawford, Norris Roland; Yamamoto, Roy Isamu

PA Ethyl Corporation, USA

SO U.S., 19 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C10M0149-06

ICS C10M0133-16

INCL 508291000

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 6117825	A	20000912	US 1992-879401	19920507
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PRAI US 1992-879401

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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US 6117825 ICM C10M0149-06
 ICS C10M0133-16
 INCL 508291000
 IPCI C10M0149-06 [ICM,7]; C10M0149-00 [ICM,7,C*];
 C10M0133-16 [ICS,7]; C10M0133-00 [ICS,7,C*]
 IPCR C10M0133-00 [I,C*]; C10M0133-52 [I,A]; C10M0133-56
 [I,A]
 NCL 508/291.000; 508/290.000; 508/293.000
 ECLA C10M133/52; C10M133/56

AB A lubricating oil composition comprising: (a) a major amount of an oil of lubricating viscosity; and (b) a minor dispersant amount of a synergistic combination of an antioxidant-dispersant additive and a dispersant additive, said combination comprising: (i) a polyisobutylene succinimide; and (ii) an ethylene-propylene succinimide.

ST lubricating oil polyisobutylene succinimide dispersant additive

IT Alcohols, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (C14-16, ethoxylated; polyisobutylene succinimide and ethylene-propylene succinimide synergistic additives for lubricating oil compns.)

IT Lubricating oil additives
 (dispersants; polyisobutylene succinimide and ethylene-propylene succinimide synergistic additives for lubricating oil compns.)

IT Lubricating oils
 (polyisobutylene succinimide and ethylene-propylene succinimide synergistic additives for lubricating oil compns.)

IT 123-56-8D, Succinimide, reaction products with ethylene-propylene copolymer 9010-79-1D, Ethylene-Propylene Copolymer, grafted with maleic anhydride
 RL: MOA (Modifier or additive use); USES (Uses)
 (polyisobutylene succinimide and ethylene-propylene succinimide synergistic additives for lubricating oil compns.)

IT 50-00-0, Formaldehyde, reactions 79-14-1, Glycolic acid, reactions 80-43-3, Dicumyl peroxide 101-54-2, N-Phenyl-p-phenylenediamine 108-30-5D, Succinic acid anhydride, isobut enyl derivs 108-31-6, Maleic anhydride, reactions 109-55-7 4067-16-7, Pentaethylenehexamine 5840-03-9, 1,3-Benzenediamine, N-phenyl- 9016-45-9, Surfonic N-40 25154-52-3, Nonylphenol
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (polyisobutylene succinimide and ethylene-propylene succinimide synergistic additives for lubricating oil compns.)

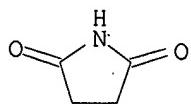
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Karol; US 4482464 1984 HCPLUS
 (2) Migdal; US 5075383 1991 HCPLUS
 (3) Nalesnik; US 4636322 1987 HCPLUS
 (4) Nalesnik; US 4699724 1987 HCPLUS

IT 123-56-8D, Succinimide, reaction products with ethylene-propylene copolymer
 RL: MOA (Modifier or additive use); USES (Uses)
 (polyisobutylene succinimide and ethylene-propylene succinimide synergistic additives for lubricating oil compns.)

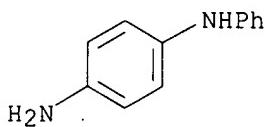
RN 123-56-8 HCPLUS
 CN 2,5-Pyrrolidinedione (9CI) (CA INDEX NAME)



IT 101-54-2, N-Phenyl-p-phenylenediamine 108-30-5D,
 Succinic acid anhydride, **isobut enyl** derivs 108-31-6,
 Maleic anhydride, **reactions** 4067-16-7,
 Pentaethylenehexamine 5840-03-9, 1,3-Benzenediamine, N-phenyl-
 RL: RCT (**Reactant**); RACT (**Reactant or reagent**)
 (polyisobutylene succinimide and ethylene-propylene succinimide
 synergistic additives for lubricating oil compns.)

RN 101-54-2 HCPLUS

CN 1,4-Benzenediamine, N-phenyl- (9CI) (CA INDEX NAME)



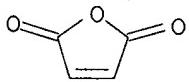
RN 108-30-5 HCPLUS

CN 2,5-Furandione, dihydro- (9CI) (CA INDEX NAME)



RN 108-31-6 HCPLUS

CN 2,5-Furandione (9CI) (CA INDEX NAME)



RN 4067-16-7 HCPLUS

CN 3,6,9,12-Tetraazatetradecane-1,14-diamine (9CI) (CA INDEX NAME)

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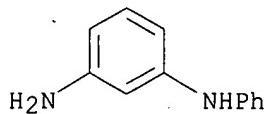
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PAGE 1-B

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RN 5840-03-9 HCPLUS

CN 1,3-Benzenediamine, N-phenyl- (9CI) (CA INDEX NAME)



RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Karol	1984			US 4482464	HCAPLUS
Migdal	1991			US 5075383	HCAPLUS
Nalesnik	1987			US 4636322	HCAPLUS
Nalesnik	1987			US 4699724	HCAPLUS

L103 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1997:260100 HCAPLUS

DN 126:307208

ED Entered STN: 23 Apr 1997

TI Polyisobutylene succinimide, ethylene-propylene succinimide and an alkylated phenothiazine additive for lubricating oil compositions

IN Esche, Carl K., Jr.; Migdal, Cyril A.; Sanderson, John R.; Ippolito, Anthony L.

PA Ethyl Additives Corporation, USA

SO U.S., 8 pp., Cont. of U.S. Ser. No. 384,804, abandoned.

CODEN: USXXAM

DT Patent

LA English

IC ICM C10M0157-04

INCL 508251000

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5614124	A	19970325	US 1995-481212	19950607
PRAI US 1993-159611	B1	19931201		
US 1995-384804	B1	19950206		

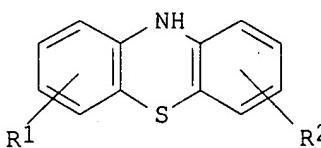
CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

US 5614124	ICM	C10M0157-04
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	IPCR	C10M0141-00 [I,C*]; C10M0141-08 [I,A]; C10M0163-00 [I,C*]; C10M0163-00 [I,A]
	NCL	508/251.000
	ECLA	C10M141/08; C10M163/00

OS MARPAT 126:307208

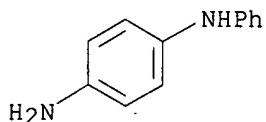
GI



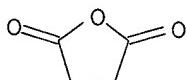
I

- AB A lubricating oil composition comprises (a) a major amount of an oil of lubricating viscosity; and (b) a minor amount of a synergistic combination of an antioxidant-dispersant additive and a dispersant additive, the combination comprising: (i) a polyisobutylene succinimide; (ii) an ethylene-propylene succinimide; and (iii) an alkylated phenothiazine represented by the formula I, where R1 is a linear or branched C4-24 alkyl, heteroalkyl or alkylaryl group; and R2 is H or a linear or branched C4-24 alkyl group.
- ST polyisobutylene succinimide dispersant lubricating oil additive; alkylated phenothiazine antioxidant dispersant lubricating oil; ethylene propylene succinimide antioxidant dispersant lubricating
- IT Lubricating oil additives
(antioxidants; alkylated phenothiazines)
- IT Lubricating oils
(crankcase; polyisobutylene succinimide, ethylene-propylene succinimide and alkylated phenothiazine additives for lubricating oil compns.)
- IT **101-54-2DP, N-Phenyl-p-phenylenediamine, reaction**
products with ethylene-maleic anhydride-propylene graft copolymer
109-55-7DP, reaction products with ethylene-maleic anhydride-propylene
graft copolymer and N-Phenyl-p-phenylenediamine **106177-14-4DP,**
Ethylene-maleic anhydride-propylene graft copolymer, reaction products
with N-phenyl-p-phenylenediamine and/or N,N-dimethylaminopropylamine
RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)**
; PREP (Preparation); **USES (Uses)**
(antioxidants-dispersants; polyisobutylene succinimide,
ethylene-propylene succinimide and alkylated phenothiazine additives
for lubricating oil compns.)
- IT **50-00-0DP, Formaldehyde, reaction products with polyisobutenylsuccinic**
anhydride, pentaethylenehexamine, 4-hydroxydiphenylamine and glycolic
acid, uses **79-14-1DP, Glycolic acid, reaction products with**
polyisobutenylsuccinic anhydride, pentaethylenehexamine,
4-hydroxydiphenylamine and formaldehyde **108-30-5DP, Succinic**
anhydride, **polyisobutetyl** derivs., **reaction products**
with pentaethylenehexamine, 4-hydroxydiphenylamine, formaldehyde and
glycolic acid **122-37-2DP, 4-Hydroxydiphenylamine, reaction products with**
polyisobutenylsuccinic anhydride, pentaethylenehexamine, formaldehyde and
glycolic acid **4067-16-7DP, Pentaethylenehexamine,**
reaction products with polyisobutenylsuccinic anhydride,
4-hydroxydiphenylamine, formaldehyde and glycolic acid
RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)**
; PREP (Preparation); **USES (Uses)**
(dispersants; polyisobutylene succinimide, ethylene-propylene
succinimide and alkylated phenothiazine additives for lubricating oil
compns.)
- IT **92-84-2DP, Phenothiazine, tetradecyl or decyl derivs.**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP
(Preparation); **USES (Uses)**
(polyisobutylene succinimide, ethylene-propylene succinimide and
alkylated phenothiazine additives for lubricating oil compns.)
- IT **122-39-4DP, Diphenylamine, tetradecyl or decyl derivs.**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT
(Reactant); PREP (Preparation); RACT (Reactant or reagent); **USES (Uses)**
(polyisobutylene succinimide, ethylene-propylene succinimide and
alkylated phenothiazine additives for lubricating oil compns.)
- IT **122-39-4, Diphenylamine, reactions 872-05-9, 1-Decene 1120-36-1,**
1-Tetradecene
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyisobutylene succinimide, ethylene-propylene succinimide and
alkylated phenothiazine additives for lubricating oil compns.)

IT 101-54-2DP, N-Phenyl-p-phenylenediamine, **reaction**
 products with ethylene-maleic anhydride-propylene graft copolymer
 RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)**
 ; **PREP (Preparation); USES (Uses)**
 (antioxidants-dispersants; polyisobutylene succinimide,
 ethylene-propylene succinimide and alkylated phenothiazine additives
 for lubricating oil compns.)
 RN 101-54-2 HCAPLUS
 CN 1,4-Benzenediamine, N-phenyl- (9CI) (CA INDEX NAME)



IT 108-30-5DP, Succinic anhydride, **polyisobutenyl** derivs.,
reaction products with pentaethylenehexamine, 4-
 hydroxydiphenylamine, formaldehyde and glycolic acid 4067-16-7DP
 , Pentaethylenehexamine, **reaction** products with
 polyisobutenylsuccinic anhydride, 4-hydroxydiphenylamine, formaldehyde and
 glycolic acid
 RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)**
 ; **PREP (Preparation); USES (Uses)**
 (dispersants; polyisobutylene succinimide, ethylene-propylene
 succinimide and alkylated phenothiazine additives for lubricating oil
 compns.)
 RN 108-30-5 HCAPLUS
 CN 2,5-Furandione, dihydro- (9CI) (CA INDEX NAME)



RN 4067-16-7 HCAPLUS
 CN 3,6,9,12-Tetraazatetradecane-1,14-diamine (9CI) (CA INDEX NAME)

PAGE 1-A

H₂N—CH₂—CH₂—NH—CH₂—CH₂—NH—CH₂—CH₂—NH—CH₂—CH₂—NH—CH₂—

PAGE 1-B

—CH₂—NH₂

=> d his

(FILE 'HOME' ENTERED AT 12:40:21 ON 14 NOV 2006)
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 12:40:38 ON 14 NOV 2006

L1 1 S US20050202980/PN OR US2004-797877#/AP, PRN
 E AFTON/PA, CS

L2 44 S E3-E25
 E ETHYLPA, CS
 E ETHYL/PA, CS

L3 4025 S E3,E4
 E ETHYL PET/PA, CS

L4 196 S E5-E47
 E LOPER/AU
 E LOPER J/AU

L5 25 S E3,E7,E8
 E GRIFFIN/AU
 E GRIFFIN P/AU

L6 40 S E3,E11

L7 27 S E38,E42,E43
 E HUTCHISON/AU

L8 1 S E3
 E HUTCHISON D/AU

L9 13 S E3,E4

L10 10 S E15-E17
 E DITTMAYER/AU

L11 1 S E5
 E DITTMAYER/AU
 SEL RN L1

FILE 'REGISTRY' ENTERED AT 12:43:49 ON 14 NOV 2006

L12 4 S E1-E4

L13 1 S L12 AND OC4/ES
 E POLYISOBUTYLENE/CN

L14 1 S E3

L15 45289 S OC4/ES AND 1/NR AND 3/ELC.SUB AND (C AND H AND O)/ELS

L16 26519 S (108-30-5 OR 108-31-6)/CRN

L17 420 S L16 AND 115-11-7/CRN

L18 88 S L17 AND 46.150.18/RID

L19 42 S L18 AND N/ELS

L20 270 S C8H10O3/MF AND OC4/ES

L21 26 S L20 AND 2 5 FURANDIONE

L22 18 S L21 AND DIHYDRO

L23 2 S 45896-82-0 OR 18908-20-8

L24 37 S (C4H5NO2 OR C4H3NO2)/MF AND NC4/ES

L25 9 S L24 AND 2 5 NOT D/ELS

L26 3 S L25 NOT (RADICAL OR 14C2 OR 15N)

L27 2 S L26 NOT DIOL

L28 4 S 108-30-5 OR 108-31-6 OR L27

L29 1 S C12H12N2 AND L12
 STR

L30 SCR 1993

L31 50 S L30 AND L31

L32 37070 S L30 AND L31 FUL

L34 STR

L35 50 S L34 SAM SUB=L33

L36 3209 S L34 FUL SUB=L33
 SAV L36 GOLOB797/A

L37 67 S L36 AND (OC4 OR NC4)/ES

L38 17 S L37 AND PMS/CI

L39 409 S L36 AND PMS/CI NOT L38

L40 318 S L39 NOT (SI OR P OR S)/ELS

L41 294 S L40 NOT F/ELS

L42 265 S L41 NOT (OC2 OR C4-OC4-OC4)/ES

L43 190 S L42 NOT C8H4CL2O2
 L44 154 S L43 NOT (B/ELS OR C6-C6/ES OR OC4-C6/ES)
 L45 144 S L44 NOT OC4-OC4-C6/ES
 L46 118 S L45 NOT (C8H6O4 OR C6H6O2)
 L47 139 S L45 NOT C6H7N
 L48 129 S L47 NOT C6H6O2
 L49 113 S L48 NOT C8H6O4
 L50 109 S L49 NOT (46.150.1/RID OR C5-C5-C6-C6-C6/ES)
 L51 2733 S L36 NOT L37-L50
 L52 2246 S L51 AND 1/NC
 L53 20 S L52 AND IDS/CI
 L54 2226 S L52 NOT L53
 L55 7 S L54 AND C12H12N2
 L56 3 S L55 NOT (D/ELS OR RADICAL)
 L57 1 S 115-11-7

FILE 'HCAPLUS' ENTERED AT 13:17:16 ON 14 NOV 2006

FILE 'REGISTRY' ENTERED AT 13:18:39 ON 14 NOV 2006

L58 1 S L12 AND C6-C6/ES

FILE 'HCAPLUS' ENTERED AT 13:18:58 ON 14 NOV 2006

L59 49145 S L28
 L60 16885 S L28 (L) RACT+NT/RL
 L61 4791 S L28 (L) MOA/RL
 L62 1116 S L28/D (L) (ISOBUTENYL OR POLYISOBUTENYL OR POLY ISOBUTENYL)
 L63 455 S L62 AND L60,L61
 L64 375 S L14,L57 AND L60,L61
 L65 716 S L63,L64
 L66 3 S L29,L56 AND L65
 L67 3 S L54 AND L65
 L68 3 S L66,L67

FILE 'REGISTRY' ENTERED AT 13:23:03 ON 14 NOV 2006

SEL RN L28

L69 27081 S E1-E4/CRN
 L70 422 S L69 AND 115-11-7/CRN
 L71 163 S L70 AND N/ELS
 L72 152 S L71 NOT C10H7NO2
 L73 134 S L72 NOT (OC2/ES OR C2H4O)
 L74 2 S L73 AND 2/NC
 L75 51 S L73 AND 3/NC
 L76 9 S L75 AND (C4H15N5 OR C2H8N2 OR C13H29N OR C4H13N3 OR C8H23N5 O
 L77 3 S L75 AND NC2/ES
 L78 1 S L75 AND NC6/ES
 L79 9 S L75 AND NC4/ES AND OC4/ES
 L80 22 S L76-L79
 SEL RN 1-3 9 13 16-21
 L81 11 S E5-E15
 L82 13 S L74,L81
 L83 57 S L73 AND 4/NC
 L84 16 S L83 AND NA/ELS
 L85 1 S L83 AND H3N AND NC4/ES AND OC4/ES
 SEL RN L84 2 9 12 16
 L86 4 S E16-E19
 L87 18 S L82,L85,L86

FILE 'HCAPLUS' ENTERED AT 13:40:29 ON 14 NOV 2006

L88 187 S L87
 L89 0 S L88 AND L56